REMARKS

Claims 1-22 remain pending in the application.

The Applicants respectfully request the Examiner to reconsider earlier rejections in light of the following remarks. No new issues are raised nor is further search required as a result of the changes made herein. Entry of the Amendment is respectfully requested.

Claims 8, 17 and 18 over Colligan

In the Office Action, claims 8, 17 and 18 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Colligan et al., U.S. Patent No. 6,415,031 ("Colligan"). The Applicants respectfully traverse the rejection.

Claims 8, 17 and 18 recite scrambling a first **central portion** of a data payload of **some of a plurality of data packets** within a data packet stream while leaving remaining ones of the plurality of data packets unscrambled.

Colligan appears to disclose a selective encryption method that encrypts a TS payload if it is selected by a counter (col. 12, lines 54-55). A counter is incremented and a determination is made as to whether the counter has been incremented to a next periodic subset of counts (Colligan, col. 12, lines 56-61). If the counter has been incremented to a next periodic subset of counts, selective encryption is performed on the current TS payload (Colligan, col. 12, lines 62-66).

Colligan discloses encrypting an nth TS payload based on a counter incrementing to a next periodic subset of counts. However, the entire TS payload is encrypted. Colligan fails to disclose, teach or suggest a method and apparatus scrambling a first **portion of a data payload**, much less a first **central portion** of **some of a plurality of data packets** within a data packet stream and without scrambling a header of the some of the plurality of data packets while leaving remaining ones of the plurality of data packets unscrambled, as recited by claims 8, 17 and 18.

The Examiner points to Colligan, col. 12, lines 58-60 and Fig. 14E as allegedly disclosing scrambling a first portion of a data payload of at least some of a plurality of data packets within a data stream (Office Action, page 3).

However, a review of Colligan, col. 12, lines 58-60 and Fig. 14E, discloses a subset of counts is used as a determination of when an entire TS payload is encrypted. Colligan discloses a subset of <u>counts</u>, **NOT** of a **portion of a data payload**, as alleged by the Examiner.

Moreover, the Examiner acknowledges that Colligan **fails** to disclose a data payload including a <u>scrambled portion</u> and a clear, unscrambled portion (Office Action, page 5). The Examiner contradicts the Examiner's own admission by alleging Colligan discloses scrambling a portion of a data payload (Office Action, page 3). As discussed above, the Examiner is correct that Colligan fails to disclose or suggest a method and apparatus scrambling a first **portion of a data payload** of **some of a plurality of data packets** within a data packet stream and without scrambling a header of the some of the plurality of data packets while leaving remaining ones of the plurality of data packets unscrambled, as recited by claims 8, 17 and 18.

Accordingly, for at least all the above reasons, claims 8, 17 and 18 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Claims 1-6, 9-13, 15, 16 and 19-22 over Colligan in view of Nardone

In the Office Action, claims 1-6, 9-13, 15, 16 and 19-22 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Colligan in view of Nardone et al., U.S. Patent No. 5,805,700 ("Nardone"). The Applicants respectfully traverse the rejection.

Claims 9-13 are dependent on claim 8, and are allowable for at least the same reasons as claim 8.

Claims 1-6 recite a data payload that includes a scrambled **central portion** and an unscrambled portion. Claims 9-13 recite scrambling a first **central portion** of a data payload of **some of a plurality of data packets** within a data packet stream and leaving remaining ones of the plurality of data packets unscrambled. Claims 15, 16 and 19-22 recite, *inter alia,* a method and apparatus

for scrambling and descrambling only a **central portion** of every nth one of a plurality of video/audio data packets.

As discussed above, Colligan discloses encrypting an nth TS payload based on a counter incrementing to a next periodic subset of counts. However, the <u>entire TS payload</u> is encrypted. Colligan fails to disclose, teach or suggest a method and apparatus scrambling and descrambling a **portion** of a data packet, much less scrambling and descrambling a **central portion** of a data packet, as recited by claims 1-6, 9-13, 15, 16 and 19-22.

The Office Action correctly acknowledged that Colligan fails to disclose the data payload including a scrambled portion and an unscrambled portion (Office Action, page 5). However, the Office Action relies on Nardone to allegedly make up for the deficiencies in Colligan to arrive at the claimed invention.

Nardone appears to disclose basic transfer units (BTUs) of compressed video data of video images are selectively encrypted to degrade video images to at least a virtually useless state (Abstract). As a result, degradation approaches the level provided by total encryption, but requires only a fraction of processor cycle cost to decrypt and render images (Nardone, Abstract). Each BTU contains the <u>start code</u> of either a group of pictures, an I-frame, a B-frame, or a P-frame is encrypted (Nardone, col. 3, lines 44-49). By encrypting each of the BTUs containing the start code of a group of pictures or the start code of frames, the frames are unrecoverable (Nardone, col. 3, lines 49-64).

Nardone discloses encrypting BTUs that contain the start code, i.e., the header of a frame of data payload. Thus, Nardone **only** scrambles a <u>BTU</u>, **NOT** disclosing or suggesting a method and apparatus scrambling and descrambling a **central portion** of a data packet and a data payload, as recited by claims 1-6, 9-13, 15, 16 and 19-22.

Moreover, even if the theoretical **combination** of Colligan and Nardone were obvious (which it is not), the result would be periodic encryption of **entire** payloads (Colligan) with encryption of a header of a data frame (Nardone).

By encrypting <u>both</u> the **entire** data payload **and** the frame header, the amount of processing power needed to decrypt a given frame would be roughly doubled. Thus, the theoretical combination would detract from the purpose of both Colligan's and Nardone's inventions, with each disclosing a method for <u>reducing</u> the amount of processing needed to decrypt a data frame.

Neither Colligan nor Nardone, either alone or in combination, disclose, teach **or suggest** a method and apparatus scrambling and descrambling a **central portion** of a data packet and a data payload, as recited by claims 1-6, 9-13, 15, 16 and 19-22.

The Examiner alleges that Nardone's MPEG-2 Transport Stream packet comprises two Basic Transport Units, a first Basic Transfer Unit and an I-frame start code (Office Action, page 6). The Examiner alleges that scrambling of a BTU equates to a data payload that includes a <u>scrambled portion</u> and an <u>unscrambled portion</u> (Office Action, page 6). However, the Examiner correctly acknowledges that Nardone discloses scrambling a <u>frame header</u> not an MPEG-2 transport packet header (Office Action, page 2). Therefore, the Examiner is correct that Nardone discloses scrambling a <u>frame header</u> **NOT** a data payload that includes a <u>scrambled portion</u> and an <u>unscrambled portion</u>, much less a method and apparatus scrambling and descrambling a **central portion** of a data packet and a data payload, as recited by claims 1-6, 9-13, 15, 16 and 19-22.

A benefit of utilizing a packet header portion that is entirely unscrambled with a data payload includes a scrambled central portion and an unscrambled portion is, e.g., compatibility. For applications using an MPEG-2 bitstream complying with an appropriate standard, e.g., ISO/IEC 13818-1, no scrambling is allowed of the header portion of a transport packet. By scrambling a data payload and leaving the header portion unscrambled, Applicants' invention allows a scrambling/descrambling system to maintain compatibility with existing standards and minimizing processing power required to encrypt/decrypt data. Consistently scrambling a central portion of a data packet and a data payload allows a receiver to know in advance which portions of a received data packet and a data payload to descramble, saving overhead associated with

attaching such information to a data packet and a data payload. The prior art fails to disclose or suggest such benefits.

Accordingly, for at least all the above reasons, claims 1-6, 9-13, 15, 16 and 19-22 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Claims 7 and 14 over Colligan in view of Nardone and Ishibashi

In the Office Action, claims 7 and 14 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Colligan in view of Nardone, and further in view of Ishibashi, U.S. Patent No. 6,021,199 ("Ishibashi"). The Applicants respectfully traverse the rejection.

Claims 7 and 14 are dependent on claims 1 and 10, and are allowable for at least the same reasons as claims 1 and 10.

Claim 7 recites a data payload that includes a scrambled **central portion** and an unscrambled portion. Claim 14 recites scrambling only a **central portion** of every nth one of a plurality of data packets, where n is an integer greater than 1, leaving remaining ones of said plurality of data packets unscrambled.

As discussed above, neither Colligan nor Nardone, either alone or in combination, disclose, teach or suggest scrambling a **central portion** of a data payload and data packet, as recited by claims 7 and 14.

The Office Action relies on Ishibashi to allegedly make up for the deficiencies in Colligan and Nardone to arrive at the claimed invention.

Ishibashi appears to disclose an encryption scheme that only encrypts an I picture of I, P and B pictures contained in an MPEG 2 data stream (Abstract). The stream header portion of the MPEG 2 data stream includes scrambled data, i.e., the location of the I picture (Ishibashi, col. 4, lines 12-15).

Although Ishibashi discloses an encryption scheme that scrambles a portion of a data payload, i.e., I pictures of a data packet. The I pictures are evenly spaced within a data packet **NOT** at a **central portion** of a data payload and a data packet, as recited by claims 7 and 14.

Neither Colligan, Nardone nor Ishibashi, either alone or in combination, disclose, teach or suggest scrambling a **central portion** of a data payload and a data packet, as recited by claims 7 and 14.

Moreover, even if the theoretical **combination** of Colligan, Nardone and Ishibashi were obvious (which it is not), the result would be periodic encryption of payloads (Colligan) with encryption of a header of a data frame (Nardone) and encryption of an I picture with a header identifying encryption data of the I picture (Ishibashi). By encrypting both the data payload and the header, the amount of processing power needed to decrypt a given frame would be doubled. Thus, the theoretical combination would detract from the purpose of all of Colligan's, Nardone's and Ishibashi's inventions, with each disclosing a method for reducing the amount of processing needed to decrypt a data frame.

Accordingly, for at least all the above reasons, claims 7 and 14 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,
MANELLI DENISON & SELTER PLLC

William H. Bollman
Reg. No.: 36,457
Tel. (202) 261-1020
Fax. (202) 887-0336

2000 M Street, N.W. 7th Floor
Washington D.C. 20036-3307

WHB/df